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ABSTRACT

As the general public demands to know what and how students are learning, schools face some unprecedented issues of accountability regarding student performance. In order to acquire data which is accurate and useful, teachers are turning to more formative assessment methods. These methods convey the ideas that assessment should engage students in applying "real world" knowledge and skills, and should differ from the traditional one-shot, timed, multiple choice approaches. The three-dimensional view of this type of assessment considers the questions of what is to be assessed, how it is to be measured, and how the data is to be interpreted. In the first dimension, a teacher must decide if he is trying to describe the extent of competence or to diagnose strengths and weaknesses of unique learners. The second dimension involves determining appropriate learning outcomes. Filtering and decoding of verbal and non-verbal messages is the focus of the third dimension. To be successful in this model teachers must become skilled critical viewers, or interpreters of visual messages; they must be: alert to possibilities of goal attainment, unbiased and culturally aware, and visually literate. (Contains 19 references.) (BEW)

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The 3-D View of Authentic Assessment

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Introduction

Today the general public is demanding to know *what* and *how* students are learning. Schools are being faced with issues of accountability regarding student performance unlike any they have had to deal with in the past. How student achievement is assessed has become a hotly debated topic. Student achievement and performance in the classroom is being closely scrutinized to ensure that students are indeed learning. The concern is that our students are failing to learn and/or transfer skills in critical thinking, problem-solving, and reasoning to real-world situations. This has made our educational community rethink *what* is taught, *how* it is taught, and equally important, *how* it is assessed.

Abraham Kaplan, according to Farr and Greene (1993), felt that educational emphasis in assessment should be concerned "with assessment that helps us to understand rather than to merely rank and label" (p. 23). Teachers need, assessment data that will help them to improve the classroom curriculum which, will help them to improve student achievement.

In order to acquire accurate and useful information concerning student performance, teachers are turning away from the traditional summative evaluation methods toward a formative method of assessment. This method of assessment is known as *authentic assessment, alternative assessment,* and *performance-based assessment.* These terms are often used interchangeably, however they are not the same. According to Marzano, Pickering, & McTighe (1993) authentic assessment, popularized by Grant Wiggins (1989), conveys the idea that assessment should engage students in applying knowledge and skills in the same way they are used in the 'real world' outside of school (p.13). Alternative assessment applies to the variety of assessments that differ from the multiple-choice, timed, one-shot approaches characterized by most traditional standardized and classroom evaluation methods. Finally performance-based assessment according to Marzano, Pickering, & McTighe (1993) is a broad term, encompassing many of the characteristics of both authentic assessment and alternative assessment (p.13). The authentic assessment process that will be addressed in this paper requires heightened observational skills by the teacher/researcher.

In order to verify student progress, teachers must be able to identify and document key observable tasks occurring within the curriculum. However, many teachers may not possess the training or confidence to implement observational methodology in the assessment process.

The use of qualitative observational methodology is a key to increasing the

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effectiveness of the authentic assessment process. In qualitative methodology, the "observer is the instrument" (Patton, 1987, p. 12) which is used to carefully examine trends or patterns while emphasizing "the importance of the *meaning* of human behavior and the social-cultural context of social interaction" (et al., 1987, p.20). The integration of qualitative observational methods can help provide teachers with the pedagogical framework in which to improve the accuracy, validity, and reliability of the authentic assessment process.

Observation of student performance is a critical component of the authentic assessment process. This paper focuses on a systematic method of addressing this issue through processes referred to here as the "The 3-D view of authentic assessment".

First Dimension - what is to be assessed?

Prior to the implementation of any form of assessment, a clear understanding of *what is to be assessed* is necessary. This includes a fundamental understanding of the purpose of the assessment process, the learner, and the subject matter to be taught.

If the primary purpose of the assessment is to "describe the extent to which students have attained particular knowledge and skills, your assessment should focus on the outcomes or product of student learning" (Herman, Aschbacher, Winters, 1992, p.23). "However, if your purpose is diagnosis and improvement, such as diagnosing a student's strengths and weaknesses, prescribing the most appropriate instructional programs, or identifying strategies students use well and those they need help with, you'll want an assessment that gives you information about the process as well as the outcome" (et al., 1992, p.23).

Understanding and recognizing the uniqueness of learners and their learning styles is an important step in the assessment process. The multiple intelligence theory, advanced by Howard Gardner (1983), espoused a shift in philosophy in which the assessor recognizes the framework of intelligence based on a broad range of abilities. The potential of all learners should be fully explored and supported by the teacher/assessor in order to maximize the learning experience.

Finally, a clear understanding of the subject matter is a necessary step in the assessment process. Without a clear understanding of the subject matter, determining important learning outcomes would be a difficult, if not an impossible task.

Second Dimension - how is it to be measured?

Determining clear and educationally sound learning outcomes is a major step in the assessment process. Well- constructed learning outcomes establish a strong foundation for prioritizing and creating a well-formulated rubric. A rubric is a rule of procedure. "When the word is used in connection with assessment, a rubric is a scoring guide that differentiates, on an articulated scale..." (Jasmine, 1993. p.9). There are two kinds of rubrics, holistic and analytic. According to Jasmine (1993), a holistic rubric is used to measure the overall effect of a task and is

qualitative in nature. An analytic rubric, consists of score points assigned to various elements and is quantitative in nature.

Setting the criteria and standards of the rubrics is a main component of authentic assessment. "Perhaps most important, scoring criteria make public what is being judged and, in many cases, the standards for acceptable performance. Thus, criteria communicate your goals and achievement standards" (Herman, Aschbacher, Winters, 1992, p.44).

Selecting the task to match the authentic assessment is also a crucial point in the assessment process. Aligning the assessment task with the intended outcomes should be done to ensure that the assessment can in fact measure the learning to take place. "When considering assessment tasks, your best choices are those you believe most closely target your instructional aims and allow your students to demonstrate their progress and capabilities" (Herman, Aschbacher, Winters, 1992, p.33). Herman, Aschbacher, Winters (1992) posed six questions to help educators choose good tasks. The questions are as follows:

- Does the task match specific instructional intentions?
- Does the task adequately represent the content and skills you expect students to attain?
- Does the task enable students to demonstrate their progress and capabilities?
- Does the assessment use authentic, real-world tasks?
- Does the task lend itself to an interdisciplinary approach?
- Can the task be structured to provide measures of several goals? (p.35-37)

Choosing an appropriate task must then be followed by describing the assessment task in a manner that is clear and documentable in order for others to replicate and/or interpret your finding. Finally, Herman, Aschbacher, Winters (1993) offer a set of criteria that help to ensure that the appropriate learning tasks lead to sound assessment. These criteria are as follows:

- Do the tasks match the important outcome goals you have set for the students?
- Do they pose an enduring problem type, the type of problems and situations that students are likely to face repeatedly in school and their future lives?
- Are the tasks fair and free of bias?
- Will the tasks be credible to important constituencies?
- Will the tasks be meaningful and engaging to students so that they will be motivated to show their capabilities?
- Are the tasks instructionally related/teachable?
- Are the tasks feasible for implementation in your classroom or school in terms of space, equipment, time, costs, and so forth?. (p. 41-43)

Third Dimension - interpreting verbal & non-verbal messages or data

The assessment process is a matter of the verification of student learning. In the authentic assessment process, students are engaged in authentic and meaningful

tasks. According to Wiggins (1993), the assessment process is authentic when we directly examine student performance on worthy intellectual tasks (p. 3). Therefore, the reliance on sound first-hand observation of both verbal and non-verbal learning situations is a vital component in authentic assessment. Teachers involved in authentic assessment need to develop strong observational skills. Harp (1991) discusses observation as a powerful tool for the evaluation of students as they are engaged in the performance of *real world* tasks (p. 75).

First-hand observation provides an understanding of both the activity and the context in which the activity is performed. It allows the observer to make more reliable inferences concerning the performance activity. Better understanding and reliable inferences are a direct result of the observer's ability to concentrate on worthy intellectual tasks in order to evaluate the performance activity more clearly.

The ability to interpret verbal and non-verbal messages accurately, validly, and reliably through the observation of learning situations requires particularly careful analysis and judgment on the part of the observer. The value of observational data is developed through the observer's descriptive documentation of the setting, the activities, and meaning of what was observed.

Critical Viewing

The teacher has always been a critic to some extent, but are teachers critical viewers as well? According to James Brown (1991), "The critic, and the critical viewer, must be grounded in two essential areas of this act of critical judgment: the area of facts (what is informational data) and the area of norms or standards (what ought to be criteria)" (p. 24). Thus, teachers are critical viewers by nature, but most likely not by systematic process.

Traditionally, critical viewing has involved the interpretation of verbal and non-verbal information involving some form of media such as movies, photographs or television. The process of critically viewing performances involving human action has not been adequately addressed through research. Perhaps this is because no critical viewing model exists to guide teachers in systematically assessing their students. This paper attempts to fill that gap by building a critical viewing model to train teachers to become skilled critical viewers. As Ploghoft and Anderson (1982) stated, "individuals trained in critical viewing skills will be equipped with criteria for evaluating intention, motives, and audience response (students), for assigning value or worth to the message" (p. 5). However, before creating a critical viewing model for teacher researchers, it is important to understand how and where critical viewing skills developed.

Critical Viewing Background

Critical viewing skills evolved from critical reading skills in order to better analyze electronic mediated messages. As John Long (1989) observed, "much of the groundwork for critical viewing was derived from work in critical reading. In critical reading, individuals learn procedures to extract and assimilate from the print media" (p. 12). Critical viewing follows a similar process but involves electronic media. As society and media

became more sophisticated, the need to understand how information was interpreted through electronic media grew.

Several projects and studies were conducted to analyze and develop standard critical viewing skills for elementary, middle school, high school and adults students. The elementary project was conducted by the Southwest Educational Development Laboratory, WNET a public television station in New York published the middle school segment, the Far West Laboratory in San Francisco developed the high school study and Boston University's School of Public Communications developed the adult program. The project's goal was to assist individuals in monitoring their own viewing habits; in other words, to teach people to view television from a perspective other than that of the medium.

Further studies conducted on critical viewing since 1970 include: Idaho Falls school District Project, the National Education Association, the National PTA and the American broadcasting Companies (ABC). The bulk of these critical viewing studies were directed toward creating higher awareness levels in viewers. Increasing one's level of critical awareness has the potential to move the viewer from passive information processing to active information processing.

There have been many different sets of skills developed for various mediated situations and targeted at certain age levels. For example, the Southwest Educational Development Laboratory defined critical viewing skills as the ability to distinguish program elements, make judicious use of viewing time, understand the psychological implications of advertising, distinguish fact from fiction, recognize and appreciate differing views, understand content of dramatic presentation, understand style of dramatic presentation and understand the relationship between television and the printed word (Brown, 1991; p.96). Although a general standard of critical viewing skills is difficult to identify, the majority of projects and studies share the concept that people must not be passive consumers of information because they lose the ability to understand the world from varied perspectives. Adams & Hamm (1988) observed, "Intelligent consumers of video information need to be able to sort out the meaningful from the trivial" (p. 82). This is also true of any viewing situation, be it mediated or live. In the age of information, how one views life can help or hinder understanding reality. Thus, critical viewing is more than understanding mediated messages. It is understanding all types of messages from mediated to live. As Adams & Hamm stated, "Effective viewing of real world images requires a critical sense for both information and shades of meaning" (1988, p. 82).

Critical Viewing 3-D Model

Critical viewing of student performance is the next step in the evolution of critical viewing skills. The general framework consists of "the principles of intervention, goal attainment, cultural understanding, and literacy" (Long, 1989, p. 13). Intervention involves understanding the process of perception and may be altered through self-regulatory skills. This is a major step because it is at this level that the viewer stops being a passive viewer and becomes

an active viewer. The active viewer begins to understand how his/her own internal perceptions and biases are developed. Individuals bring a set of beliefs to every situation. Discovering how to separate one's own perception from the visual messages in a situation is the key to becoming a critical viewer. An example of this is a teacher using a rubric to assess a child's performance. In order to incorporate critical viewing into the assessment the teacher must use intervention to understand how his/her internal perspectives may affect the assessment. For instance, if a teacher is tired or has had difficulty with a particular child in the past, a skewed perspective of the child's ability may occur. This skewed perspective may in turn alter the assessment process.

The next step in the process of becoming a critical viewer is goal attainment. Goal attainment involves monitoring and understanding one's own reasons for attending to the learning situation as well as recognizing the student's own (and possibly different) rationale for participation. In other words, the viewer and the student performing the learning activity each have a set of goals. These goals do not necessarily refer to learning activity goals but refer to the personal goals of the teacher and of the student at the time of assessment. The teacher may want the student to complete the activity in a certain way and the student may want to just get through the task. It is the responsibility of the critical viewer to understand his/her personal goals as well as the goals of the person being assessed. By accomplishing this, the critical viewer can ensure that the goals of the learning activity are mutually understood and that the evaluation of the students' performance is not adversely affected by a clash of personal goals.

The third step in the critical viewing process is cultural understanding. Cultural understanding is knowing where the learning situation exists within the social schema. It is the opposite of the intervention step because the viewer now focuses on external awareness of others perceptions and biases. The viewer is concerned with understanding the perceptions and biases of individuals being assessed. For example, students' race, religion, gender, etc. play a large role in their perception of any learning situation. The students' perceptions and biases likely affect their performances and thus adversely alter the assessment unless the teacher/viewer incorporates cultural context into the assessment situation.

The final step in the critical viewing process is literacy. Literacy is understanding the overall grammar of the learning situation, such as body language or actions of the learner in the course of an activity (physical, behavioral, and/or cognitive). It is at this step in the process that the viewer can take all the knowledge gained from the first three steps of the critical viewing process and actually interpret what is seen during the learning activity. For example, the body language, vocal tone and verbal usage of a diabetic child with low blood sugar will appear as a normal child behaving poorly. A trained and well-prepared teacher critically viewing the learning situation will assess the whole child within the learning context. A teacher passively viewing the situation might assess the child incorrectly by not being aware of perceptions and

biases, personal and other goals, external awareness of others' perceptions and biases, and the literacy of how to communicate.

The four steps to critical viewing skills create skilled observers who are trained and prepared for authentic assessment. Critical viewing adds the missing dimension to the authentic assessment process, filling in valuable contextual information about performance, thus creating a more valid and reliable assessment.

The Third Dimension within the 3-D view of authentic assessment acts as a pre-assessment focusing session geared to heighten a teacher/researcher's concentration in order to help filter irrelevant perceptions or biases that may be present during an assessment situation.

Summary

What is taught, *how* it is taught, and *how* it is assessed are critical issues within the educational community. The 3-D view of authentic assessment integrates the major steps of the development of an authentic assessment instrument.

The First Dimension addresses the need to carefully formulate a clear understanding of *What is to be assessed?* This includes the identification of the purpose of the assessment, recognizing the uniqueness of the learners, and possessing a knowledge base of the subject matter to be instructed.

The Second Dimension looks closely at *How is it to be measured?* Determining appropriate learning outcomes will drive the instructional and assessment processes, therefore the formulation of the learning outcomes and the criteria and standards that will be applied to them are critical components. This leads directly to the final phase of the Second Dimension the selection of a suitable assessment task. Ralph Tyler (1949), father of modern evaluation, commented that without an understanding of what a learner is to know and how it is to be expressed, makes the determination of whether or not learning has taken place a difficult process.

Incorporating the Third Dimension, *interpreting verbal and non-verbal messages or data*, into the observational process of authentic assessment provides an important filtering method. Goodman stated, "teachers are constant kid watchers" (1986, p.41). As such, classroom teachers need to be trained and well-prepared observers of all activities throughout the school day. Teachers must remain focused and objective just as qualitative researchers in various scientific fields involved in examining trends or patterns of meaning and social context in human behavior. Trained and well-prepared classroom teachers therefore become more astute observers of the underlying meaning and social context of student behavior, thus, creating the potential for improved quality of their findings and ultimately their assessment procedures.

The filtering method in the Third Dimension is a key component in accurate interpretation of verbal and non-verbal messages that teacher preparation is essential. This filtering session can be seen as a pre-assessment focusing session. The inclusion of a focusing session prior to an observational assessment takes a short amount of time and has the potential of positively impacting the assessment process. This focusing session sharpens a

teacher's concentration and heightens the teacher's awareness of personal interventions, goals, the cultural context, and literacy issues that may interfere with or contaminate the assessment process. Being in an assessment-ready mode to keenly zero in on the observational data to be collected is a critical step in the assessment process.

Critical viewing skills are important components of the authentic assessment process. These skills involve the ability to interpret visual messages accurately while separating them from one's own perceptions and biases. Even before a visual message is recorded by the teacher, the visual image needs to be interpreted. The encoding and decoding process that a teacher goes through while interpreting an educational situation should be free from preconceptions and personal bias while at the same time providing useful and accurate information on student performance. The ability to understand and analyze the persuasiveness of visual messages is an important skill in the process of observation.

The integration of the third dimension into the authentic assessment process provides the classroom teacher with a systematic method of developing an effective assessment instrument. Processing information through the first, second and the third dimension gives a classroom teacher a sense of confidence in their own assessment instrument as well as their observational skills.

As classroom teachers strengthen their observational skills and begin to recognize their roles as *teacher-researchers* involved in important action-research, hidden benefits are likely to be discovered. The impact of these hidden benefits will be seen on two levels. On one level, the classroom teacher will experience an increase in confidence and professionalism. On another level, the benefits will have a direct effect on both daily instructional and social classroom activities. The significance of these powerful hidden benefits will, by their very nature, have a positive impact on a teacher's creativity and overall effectiveness in the instructional and assessment process of student learning.

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